

**What is claimed is:**

1. A receiving device used in a digital television, comprising: a receiver for forming a plurality of virtual channels multiplexed onto a physical channel to thereby receive a digital broadcast transmitting channel information indicating a program for each of the virtual channels and attributes of the virtual channels; a channel selecting section for switching the physical channel for the digital broadcast received by the receiver and also switching the virtual channels formed onto the physical channel; an automatic storage section for switching (s9) the physical channels at the channel selecting section to thereby detect (s4) whether a program is broadcast at each of the physical channels and obtain (s5) the channel information of a physical channel at which a program is broadcast and then register (s6) the physical channels in a channel map in correlation with the virtual channels; an automatic storage instructing section for instructing the automatic storage section to perform an operation thereof; and a channel storing section for storing a specified virtual channel; wherein:

the automatic storage section, when the channel information obtained on the physical channels at which a program is broadcast contains (s7) any other physical channels therein, registers (s8) the physical channels thereof in the channel map, decides (s3) whether the physical channel which is switched at the step (s9) has been registered in the channel map, and if the physical channel has been registered, not to detect (s3: No) whether a program is broadcast at

the other physical channels and also inhibits the virtual channels stored in the channel storing section from being registered in the channel map; and

the channel selecting section usually inhibits the physical channels and the virtual channels not registered in the channel map from being selected.

2. A receiving device used in a digital television, comprising: a receiver for forming a plurality of virtual channels multiplexed onto a physical channel to thereby receive a digital broadcast transmitting channel information indicating a program for each of the virtual channels and attributes of the virtual channels; a channel selecting section for switching the physical channel for the digital broadcast received by the receiver and also switching the virtual channels formed onto the physical channel; an automatic storage section for switching (s9) the physical channels at the channel selecting section to thereby detect (s4) whether a program is broadcast at each of the physical channels and obtain (s5) the channel information of a physical channel at which a program is broadcast and then register (s6) the physical channels in a channel map in correlation with the virtual channels; an automatic storage instructing section for instructing the automatic storage section to perform an operation thereof; and a channel storing section for storing a specified virtual channel; wherein:

the automatic storage section, when the channel information obtained on the physical channels at which a program is broadcast

contains (s7) any other physical channels therein, registers (s8) the physical channels thereof in the channel map, decides (s3) whether the physical channel which is switched at the step (s9) has been registered in the channel map, and if the physical channel has been registered, not to detect (s3: No) whether a program is broadcast at the other physical channels; and

the channel selecting section usually inhibits the physical channels not registered in the channel map and the virtual channels stored in the channel storing section from being selected.

3. A receiving device used in a digital television, comprising: a receiver for receiving a digital broadcast; a channel selecting section for switching a channel for the digital broadcast received by the receiver; an automatic storage section for switching the channels at the channel selecting section to thereby detect whether a program is broadcast at each of the channels and register such a channel at which a program is broadcast in a channel map, wherein:

the digital broadcast transmits channel information indicating attributes of the virtual channels multiplexed to the channel; and

the automatic storage section obtains the channel information on channels at which a program is broadcast, when the channel information contains any other channels therein, registers the channels thereof in the channel map, decides whether the channel which is switched has been registered in the channel map, and if the channel has been registered, not to detect whether a program is broadcast at the other channels.

4. The receiving device used in a digital television according to claim 3, further comprising an automatic storage instructing section for instructing the automatic storage section to perform an operation thereof.

5. The receiving device used in a digital television according to claim 3, wherein the channel selecting section usually inhibits the channels not registered in the channel map from being selected.

6. The receiving device used in a digital television according to claim 3, further comprising a channel storing section for storing a specified channel, so that the automatic storage section inhibits the channels stored in the channel storing section from being registered in the channel map even if a program is broadcasted through the channels.

7. The receiving device used in a digital television according to claim 3, further comprising a channel storing section for storing a specified channel, so that the channel selecting section usually inhibits the channel stored in the channel storing section from being selected.